

**Notice of Allowability**

Application No.

09/711,684

Examiner

Ovidio Escalante

Applicant(s)

GUDMUNDSSON ET AL.

Art Unit

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**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 7/22/2004.
2. ☒ The allowed claim(s) is/are 5-7 and 9-40.
3. ☐ The drawings filed on \_\_\_\_\_ are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☐ All    b) ☐ Some\*    c) ☐ None    of the:
  1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  6. ☒ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
    - (a) ☒ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
      - 1) ☒ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1. ☐ Notice of References Cited (PTO-892)
2. ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08),  
Paper No./Mail Date 4/12/2004
4. ☐ Examiner's Comment Regarding Requirement for Deposit  
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413),  
Paper No./Mail Date \_\_\_\_\_.
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_.

### **DETAILED ACTION**

1. This action is in response to applicant's amendment filed on July 22, 2004. **Claims 5-7,9-40** are now pending in the present application.

#### ***Information Disclosure Statement***

2. The information disclosure statement submitted on April 12, 2004 was received. The submission is in compliance with the provisions of 37 CFR 1.97. Accordingly the information disclosure statement is being considered by the examiner.

#### ***Drawings***

3. The drawings filed on November 10, 2000 are acceptable subject to correction of the informalities indicated on the attached "Notice of Draftsperson's Patent Drawing Review," PTO-948. In order to avoid abandonment of this application, correction is required in reply to the Office action. The correction will not be held in abeyance.

### **EXAMINER'S AMENDMENT**

4. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

The application has been amended as follows:

In claim 19, line 6, delete "the" (first occurrence);

In claim 19, line 6, after "impairments" insert --associated with impairment sources--

In claim 19, line 10, after "impairment" insert --source--

### **REASONS FOR ALLOWANCE**

5. The following is an examiner's statement of reasons for allowance: in the response received on July 22, 2004, applicant amendment/arguments with respect to Fleming-Dahl and Moher is persuasive and thus the examiner is indicating allowability on the claims.

Specifically, as argued by Applicants, Fleming-Dahl and Moher do not alone or in combination teach of creating a posteriori statistical model of the impairment type by collecting a plurality of probability density functions corresponding to a signal-to-noise ratio associated with the impairment types from at least one signal line of the communication system, creating an updated a priori statistical model based upon the a posteriori statistical mode and the initial a priori statistical model, and using the update a priori statistical model to diagnose the impairment type among signal line for the communication system.

The closest prior art Fleming-Dahl and Moher teaches of compiling statistical models of physical layers of a communication system and collecting a plurality of probability density functions corresponding to a signal-to-noise ratio of different combination of the impairments and at least one signal line of the communication system. Fleming-Dahl and Moher do not teach of the claims for the reasons argued by the Applicant.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

6. Claims 5-7,9-40 have been renumbered to claim 1-35 respectively.

***Conclusion***

7. Any response to this action should be mailed to:

Commissioner for Patents  
P.O. Box 1450  
Alexandria, Virginia 22313-1450

or faxed to:

(703) 872-9306, (for formal communications intended for entry)

Or:

(703) 872-9306, (for informal or draft communications, please label  
"PROPOSED" or "DRAFT")

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal  
Drive, Arlington, VA, Sixth Floor (Receptionist).

8. Any inquiry concerning this communication or earlier communications from the  
examiner should be directed to Ovidio Escalante whose telephone number is 703-308-6262. The  
examiner can normally be reached on M-F (6:30AM - 5:00PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's  
supervisor, Fan S Tsang can be reached on 703-305-4895. The fax phone number for the  
organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent  
Application Information Retrieval (PAIR) system. Status information for published applications  
may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

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applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Ovidio Escalante  
Examiner  
Group 2645  
September 15, 2004

FAN TSANG  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2600

A handwritten signature in black ink, appearing to read 'Fan Tsang', is written over the printed name and title.